

AMERICAN MEDICAL TIMES

Being a Weekly Series of the New York Journal of Medicine.

No. XIX. } NEW SERIES.
VOL. IV. }

NEW YORK: SATURDAY, MAY 10, 1862.

{ Mail Subscribers, \$8 per Ann.
City and Canadian, 8 1/2 " "
Single Numbers, 10 cents.

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BY

L. BAUDENS,

INSPECTOR AND MEMBER OF THE COUNCIL OF HEALTH OF THE ARMIES; FORMERLY SURGEON-IN-CHIEF AND FIRST PROFESSOR OF THE PERFECTING SCHOOL OF VAL-DE-GRACE, ETC., ETC., ETC.

TRANSLATED AND ANNOTATED BY

FRANKLIN B. HOUGH, M.D., SANITARY INSPECTOR.

BAILLIÈRE BROTHERS, PUBLISHERS, 440 Broadway, New York.

Circular to Physicians and others.

LOUISVILLE, KY., Jan. 1, 1862.

The undersigned respectfully calls the attention of the Medical Faculty of the United States, to the following correspondence between a number of the most respectable and influential physicians of New York and Brooklyn, and the writer.

W.M. T. CUTTER, JR.

NEW YORK, May 1, 1861.

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Wm. H. Davol, M.D., late Physician

to L. I. College Hospital, Brooklyn, removed to St. Paul, Minn.

References.—C. L. Mitchell, M.D., T. L. Mason, M.D., Prof. E. N. Chapman, M.D., of Brooklyn; Prof. Austin Flint, M.D., Prof. B. F. Barker M.D., of New York.

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LECTURE VI.—PART III.

RESINA PODOPHYLLI (PODOPHYLLIN).

Modus Operandi.—We find that podophyllin consists of two resins, one soluble in ether, the other in alcohol, the resin which is soluble in ether being in most instances the most active. Both of these resins are soluble in solutions of a caustic alkali, and when so given act rather more quickly as a purgative than when given in combination with an alkali. It will be remembered, that when applied to an ulcerated surface it acted equally well upon the bowels as when given by the mouth, and that it also acted upon the bowels when injected under the skin of a dog. In my lecture on iodine I proved to you that the various secretions of the body had the power of decomposing, rendering colorless, and absorbing, the insoluble iodide of amidine; the same is the fact with this resinous substance, which, although perfectly insoluble in water and saline solutions, becomes soluble in the saliva, gastric fluid, pancreatic and biliary secretions. It is absorbed into the blood, then, whether given in an insoluble powder, or held in solution by an alkali. So far as my experience goes it acts with less irritation when given in solution in an alkali than when given uncombined with an alkali in either pill or powder; because in this way it is more quickly absorbed, flows freely over a larger surface, and thus causes less irritation of the mucous membrane. Most of the resinous cathartics act as drastic purgatives, and by their irritating action on the intestinal canal indirectly excite the liver, and stimulate it into activity, thus acting as cholagogues. The same result is produced in a very mild degree even in the process of digestion. But that this is not due merely to the irritation of the orifice of the hepatic duct, is proved by the dissimilarity of the operation by different materials that stimulate the duodenum in an equal manner. Again, we find that each particular medicine has its own peculiar operation, whether introduced directly into the circulation of the blood, or administered by the mouth. And we find with this agent that in whatever way administered it passes into the blood, is absorbed and carried through the system, producing its own peculiar action of exciting into activity the glandular system, and that by the augmented secretion of these glands it passes out of the blood, and removes from the system the effete matters secreted; thus doing good by removing not only from the bowels but from the glands the irritating matières morbi no longer needed in the system, in this manner purging the blood. It is claimed for this medicine that it has an action on the liver similar to mercury, and owing to this asserted similarity it has been called vegetable mercury. How are we to arrive at the facts in this case? I am not aware that any chemical tests could be applied to ascertain the presence of so small an amount of this agent in the liver, for it will be remembered that half a grain of the pure ethereal resin is a full dose. We cannot, then, as Buckheim did with mercury, actually detect it in the liver of dogs to which it was given. But we can (and have by many careful experiments) ascertain that bile exists in very large quantities in the alvine discharges of men and animals to whom the resin has been given; and reasoning from good analogy, we can assert that it has an active agency upon the liver, because diseases of the liver and biliary derangements are cured by its operation.

Again, it is claimed for this medicine that it has a powerful *alterative* action. Using this word in its fullest sense, we cannot but acknowledge that it produces the effects claimed for it, for as the term is used it signifies medicines which *alter* for the better the state of the system. From the action that the resin exerts upon the blood we have seen that it stimulates the function and increases the secretion of various glands, in this way *altering* the composition of the blood itself, and becoming a blood medicine by the change it produces in that fluid by its true eliminative action.

It is asserted by one practitioner that he has cured one hundred and twenty cases of syphilis with podophyllin, and that it acts as well as mercury, without any of its injurious effects. It is undoubtedly obvious to many observers that there is a great decrease in the cases of syphilis of the true Hunterian character, and that a great majority that now exist are readily cured without the use of mercury by good local and general treatment. Of such as these were no doubt the cases here spoken of. Let those cavil who will, but it is an indisputable fact that syphilis is of a milder character here than it was twenty five years ago; and the great majority of cases can be cured without any mercury, and podophyllin in mild cases of soft chancre would be better than most other remedies.

Of its sialagogue action we have spoken in another place.

It is to be regretted that so few physiological and chemical experiments have been performed with this medicine, for without them we are to a great extent ignorant of its true modus operandi. I have before promised you that with Dr. Elsberg's assistance I will at our earliest convenience give to the public a work on New Remedies and their Therapeutical Application. Before that work is published I will endeavor to institute a series of experiments, so that we may be able to give a more full and ample account than I can now do, and with this explanation you will excuse me for leaving unsaid many things regarding it that you would otherwise have expected of me.

Doses, and Modes of Administration.—As the podophyllin made by different manufacturers differs in its composition, the amount required for a dose will vary according to the sample that is taken. Again, it will vary in its action; for when the pure resin is taken alone it acts more quickly, and produces more pain than when given in combination with some carminative or sedative. Of the samples that are in the market the full purgative dose for an adult will vary from one to three grains. The amount necessary to be taken will vary of course with the effects required to be produced. If an ordinary dose of "biliary medicine" is required for an adult man, a very good pill will be:—Podophyllin, two grains; capsicum, two grains; both finely powdered and well rubbed together, and made into a mass with a small amount of honey. This pill may be taken at bedtime, and will generally operate in the morning without causing much uneasiness. If a dose is required for a delicate female a pill may be made in the following manner:—Podophyllin, dried carbonate of soda, each one grain; extract of hyoscyamus, two grains. This will be moist enough to work into a pill, and may be taken at bedtime. It is difficult to get children to swallow pills. I therefore usually prepare a syrup in this manner:—Podophyllin, four grains; liquor potasse, sixteen minims; syrup of ginger, one fluid ounce. The podophyllin in fine powder is rubbed in a warm porcelain mortar with liquor potasse, and as saponification takes place the syrup is gradually added. For a child from six to ten years old, the dose will be a teaspoonful. There is one great objection to the ordinary podophyllin pills that are put up. They become so hard, and are so slowly dissolved in the stomach and intestines, that they frequently pass but little acted upon. If pills are kept made up, as large a quantity of honey as possible should be the substance with which they are combined; in the warmth and moisture of the stomach they are quickly dissolved. Whether the podophyllin is given in powder or pill it should always be brought to the finest possible

powder, for in this state it produces less irritation and pain than in a coarsely powdered state, and this holds good whether it acts first upon the stomach or upon the lower portion of the small intestines. I administered to a man about two hours after a meal two grains of coarsely powdered commercial podophyllin in a gelatine capsule that had been frequently dipped into a solution of mastich in chloroform. No effect was felt for three and a half hours; it then produced severe griping pains in the lower portion of the small intestines, and a free bilious evacuation, as though it had acted upon the stomach and duodenum. The same dose, administered in the same manner in two gelatine capsules coated in the same way, but the podophyllin first made into a soap with caustic alkali, did not produce the same tormina. Both of these methods of administration were tried several times, with the results above mentioned. Capsules coated in this way are not dissolved in the stomach, and freely pass into the small intestines, until the resinous substance is dissolved by the bile and pancreatic secretion; the same is no doubt frequently the case with dry podophyllin pills, and it is also the case with podophyllin in powder, if administered in large quantities.

The most pleasant way of taking this medicine is in the double gelatine capsules. In this way one or more capsules can be filled with the podophyllin made into soap, and if necessary mixed with a carminative or stimulant.

If it is administered for diseases of the kidneys I think it best to be given in a state of fine powder, and not in solution or combination with any stimulant; it in this manner acts more upon the bowels, and they relieve the kidneys.

When given for its special action to increase the secretion from the liver, in chronic disorders of that organ, a very small dose, frequently repeated, will be found of more service than larger doses at longer intervals; for if a large dose is taken it cannot be repeated in less than three or four days without acting too freely on the bowels; whereas, if a small dose is taken it may be repeated every few hours, and thus keep up its continued mild action. I have a case of chronic hepatitis I am now treating, which has improved in a most satisfactory manner upon the use of cold infusion of the bitter roots and small doses of podophyllin alone. The pills I have given in this instance are thus prepared:—Podophyllin 3 grains; dried carbonate of soda, 20 grains; pow'd calumba root, 30 grains; honey, sufficient to make into a mass, to be divided into 24 pills. Each of these pills contains one-eighth of a grain of podophyllin, which the powdered calumba keeps in a fine state of division. Of these, one pill is taken every four hours, and they produce an easy evacuation about every twelve hours.

I see it stated in several books, that in case an overdose of podophyllin has been taken, lactic acid in the shape of sour milk is the proper antidote. If it was immediately discovered that an overdose had been taken this would be a very good remedy, because it would to a great extent prevent the absorption of the resinous matter, and cause it to spread itself over the coagulated casein, and thus render it easy of evacuation by an irritant emetic of sulphate of zinc or alum. But if an overdose of podophyllin had been taken long enough to be absorbed, I think that a person who would then administer sour milk would be guilty of gross malpractice, for he would be adding to the violence of the pain and the inflammation of the mucous membrane by giving an acid. The proper treatment in such cases would be full and prompt doses of opium. In the griping pains which are sometimes caused by medicinal doses of podophyllin, warm aniseed or ginger tea generally gives relief; but sometimes a dose of paregoric is required.

There are some persons who cannot bear the use of podophyllin without combining it with an opiate; it then acts kindly and well.

In chronic diseases of the liver I have found the combination of podophyllin and sub-nitrate of bismuth of great service. Podophyllin, in poisonous doses, must cause violent inflammation of the stomach and intestines, especially of the mucous surface. I know of no antidote, but I should

think, in addition to the ordinary treatment for gastro-enteritis, free use of the chalk mixture would be of service.

Many writers compare the action of podophyllin to that of jalap, others again think that it is more like scammony, and some compare its action with colocynth; but we have seen that, however much it may resemble these remedies in some respects, it has an action of its own differing from either of them. Of its true physiological and therapeutic action I have no doubt we have much yet to learn, and it will be my endeavor to present you more details of its action in the work I have promised you.

Original Communications.

ON THE PROXIMATE CAUSE OF DELIRIUM TREMENS,

WITH ESPECIAL REFERENCE TO THE TREATMENT OF THE DISEASE.

By M. GONZALEZ ECHEVERRIA, M.D.

THE frequent occurrence of delirium tremens does not seem to have done much towards establishing proper views of its character. The symptoms are, for the most part, the only guides for treatment; the pathological anatomy of the disease being not understood as it should be. Authorities concur in admitting that, when it supervenes upon a debauch, it is due to cerebral excitation or hyperemia, and to cerebral exhaustion or anæmia, when it occurs upon the withdrawal of the alcoholic stimulus, in those persons accustomed to indulge freely in drinking. This latter statement is, indeed, utterly opposed to what we learn from a close investigation of the appearance of the brain; for cerebral hyperemia is the proximate cause of delirium tremens in the first as well as in the second case, in which it happens in this wise:—The increased activity of circulation from constant alcoholic stimulus gives rise to a lengthening and dilatation of the cerebral blood-vessels. Now, as soon as the withdrawal of the stimulus diminishes the force of circulation, a stasis of blood takes place, and we have cerebral hyperemia, the true source of the mental disturbance. Moreover, we shall see that by a reference to the symptoms which present themselves, we are enabled to suspect this very nature of the changes undergone by the brain tissue. The attentive examination of an intemperate man at once shows that, besides his peculiar stammering, there is a manifest tremor; he may be able to control his movements, but never his constant shaking.* These phenomena, even slight, afford undoubted evidences of the congestive state developed in the brain. This disposition to inflammatory congestion increasing, we find that the symptoms of delirium tremens become so identical with those of peri-encephalitis, that we are unable to distinguish the one disease from the other. The only difference I have observed, however, between them, is a fatty degeneration of the brain usually present after repeated attacks of delirium tremens, but which is not noticed by Calmeil in any of the numerous cases of peri-encephalitis reported in his admirable work on *Inflammatory Diseases of the Brain*.

While on this subject it is important to add that, whatever its form, delirium is always caused by cerebral hyperemia. This statement is at variance with the generally received opinion which considers some of the cases as the result of anæmia of the brain. We have already, we hope, satisfactorily explained the cause of hyperemia in delirium tremens following upon withdrawal of the alcoholic stimulus, and it is easy to see why such a relation of cause to

* Tremor is a symptom most constantly associated with a sub-inflammatory chronic condition of the nervous centres; therefore, it usually attends softening of the brain, paralysis from hemorrhage, chronic meningitis, induration of the nervous centres, the result of exudations produced among the elements of the organ, and all slow intoxications attended with cerebral congestions, such, for instance, as those from opium, cannabis indica, etc., etc.

effect should always exist.* But it may be urged that debilitating conditions are usually attended with that symptom. It must, nevertheless, be remembered, that it is a law of pathology that deficient nutrition is the ordinary source of sudden local congestions, and hence we find that delirium often is a relapsing symptom in the convalescence of protracted fevers. Nothing is more common than cerebral congestion with anæmia, chlorosis, or with syphilitic, rheumatic, cancerous, or any other cachexia. Yet, it might be argued again, that, under the latter circumstances, delirium is the effect of a cerebral tumor. It must, however, be borne in mind, that a tumor interfering with the brain does not produce delirium, unless congestion or inflammation be more or less extensively developed in the cerebral tissue connected with the original disease. Even in atrophy of the brain, commonly attended with chronic delirium or mania, the hyperemic state of the brain is evident in the dilatation and lengthening of its blood-vessels. Besides all these clinical facts, the researches of Kussmaul and Tenner confirm, "that anæmia of those parts of the brain situated before the crura cerebri, produces unconsciousness, insensibility, and paralysis in human beings; if spasms occur with these symptoms, some excitable parts behind the thalami optici must have likewise undergone some change."

The forms of delirium tremens which are fatal after the first attacks, are rare, but repeated seizures of the disease become a powerful exciting cause of a secondary diseased state, which is incurable. The cases of dementia and general paralysis, following chronic delirium tremens, are indeed numerous. We are all aware that intemperance is a main cause of insanity; and although all oft repeated attacks of delirium tremens do not necessarily bring on dementia and progressive paralysis, yet they finally have a fatal issue exhibiting the symptoms and the post-mortem characters of peri-encephalitis.

In simple cases the lesion does not go beyond a congestion, which may, however, induce an acute inflammation in the brain. After repeated attacks, that congestion gives place to stasis of blood, and hence the exudations impairing the structure of the organ, as also originating a decided subacute inflammatory condition, which brings on at last acute peri-encephalitis, or progressive paralysis and dementia. Such is the ordinary issue of delirium tremens; and these facts, which are established here as a deduction of pathological researches, were already foreseen by Calmeil. He suspected that repeated attacks of delirium tremens might cause, after some days, either inflammatory congestion, or congestion with granular degeneration of the encephalic tissues. The attentive consideration of several cases of acute diffuse peri-encephalitis, supervening upon alcoholic intoxication, led him to this hypothesis, now sustained by post-mortem examinations.

I have, on different occasions, studied the condition of the brain in delirium tremens, and found it very much resembling that of peri-encephalitis. I will describe it here, as it existed in the case of a woman, a patient of Dr. T. G. Thomas in Bellevue Hospital, who died on the 30th of last December. She died with symptoms of general paralysis, and it was ascertained that she was at first taken sick with delirium tremens. The case being considered one of cerebritis, most likely brought on by alcoholic intoxication, by the request of Dr. Thomas, I examined the whole encephalon of this patient, about twenty-four hours after death. The membranes were markedly congested; the arachnoides, increased in vascularity and thickened, could be detached without tearing from the brain, both being firmly united through fine capillary vessels. On detaching the membranes, the cerebral tissue remained adherent to it, the brain presenting afterwards a rugous surface. There were patches of solid pus in some places of the arachnoid cavity.† The

convolutions were strongly marked and hardened. On slicing the brain the cortical substance was of a violet discoloration and a general punctiform injection. In the optic thalami, the pons varolii, and the cerebellum, the discoloration was deeper, and the surface of the cut looked as if moist more than in any other place. The cerebro-spinal fluid was augmented in the ventricles, and of a reddish tint; the choroid plexuses were much congested, and covered with yellow granulations formed of pus. Examined with the microscope, the cortical substance was found increased in vascularity and in myelocytes; the amorphous matter, very abundant, was mixed with granular corpuscles of exudation, and brilliant fatty granulations. Once the preparation treated with ether, these latter disappeared, or more properly, were united in large globules. The capillaries, varicose and lengthened, had their coats charged with granular exudations of a fibrinous nature. The white substance presented a similar alteration, although in a less degree. The fatty degeneration seemed more advanced in the cortical substance of the anterior part of the cerebral hemispheres and in the cerebellum, than in any other. The cerebro-spinal fluid of the ventricles contained a great deal of granular cells, blood globules, and crystals of hematoidine.

I have recently observed the fatty degeneration of the brain remarkably advanced in a portion of the cerebral hemispheres and in its adjoining membranes, sent to me also by Dr. T. G. Thomas. The cortical and white substances had a light discoloration, and were harder than normal. The membranes were intimately united to the cerebral tissue by capillary vessels penetrating into it. Under the microscope both the cortical and white substances appeared markedly granular. There were no granular cells, but the capillary vessels, irregularly distended, were quite masked by granular exudations. Most of the granular elements were of a decidedly fatty nature. This change of the cerebral tissue was besides appreciated by Dr. Thomas, who informed me that the patient died of delirium tremens at the Bellevue Hospital.

Comparing the above changes of the brain with those it undergoes in peri-encephalitis, we will find the same lengthening and dilatation of the capillary vessels, the same abundance of granular amorphous matter and granular cells, which, together with the thickening and adherence of the membranes, characterize the latter disease; the fatty substitution being, therefore, the only peculiarity possessed by delirium tremens. It seems that the alcoholic intoxication induces that morbid alteration in the organs, as the coincidence of chronic alcoholism and fatty degeneration in the abdominal and thoracic viscera has been also pointed out. We are not able to state precisely the period of delirium tremens in which this alteration in the brain commences, but it shows itself at first in the anterior part of the cerebral hemispheres, in the optic thalami, and in the cerebellum. I have observed it twice mostly localized in these two latter organs; in one case in which the disease ended with violent convulsions, of real epileptic nature, the fatty degeneration was only found in the oblong medulla and the cerebellum. It is when the disease has become chronic, and is of a low character, and when the patient sinks into a prolonged state of coma, that we detect an advanced fatty degeneration in the encephalon co-existing with a like change in other viscera.

It will be readily admitted, that it is not a little important for the treatment of delirium tremens to have a proper knowledge of its proximate cause. The condition of the brain, however, is seldom uncomplicated with some derangement in the digestive organs, just as we rarely will observe acute delirium unaccompanied with some other inflammatory condition in the thoracic or abdominal viscera. Nevertheless, this pathological state of the other viscera is one of the epiphrenomena in delirium tremens, and tends to modify the general treatment in no small degree. Hence we see that often emetics and cathartics fail to act as specifics for delirium tremens. There is no doubt, however, that the exhibition of emetics may afford relief in violent

* It is unnecessary to state that cerebral exhaustion necessarily involves a deficient supply of blood in the brain, since all the organic functions are under the immediate dependence of nutrition, which only regulates the properties of the nervous system.

† The pus in the arachnoid cavities, the choroid, and the iris, is always solid.

cases of delirium tremens, as they do in other apoplectic conditions of the brain, but they are far from being specific agents. It is unnecessary to speak of antiphlogistics; their danger is sufficiently obvious, and they prove highly pernicious, if there are no evident symptoms of acute peri-encephalitis. Nor are the claims of narcotics upon our confidence, and the reputation they usually enjoy, more trustworthy. Opium, which is the most praised, administered in severe attacks, does not quiet the patient, unless its dose be very large, and frequently the rest it produces is then followed by coma, the precursor of death. Neither does its free exhibition bring any positive relief during the period of excitation in simple cases of delirium tremens, for it generally happens that the patient passes from the alcoholic intoxication into that by opium, which may also prove fatal. The property opium has of congesting the nervous centres could not make us expect any better effects; there is, however, a time in delirium tremens in which opium certainly has a marked benefit, as a stimulant to sustain the patient when the disease has exhausted itself. Throughout the other periods that remedy has very uncertain if not unfavorable effects. Belladonna, ergot, digitalis, and other direct sedatives of the circulation may be more effectual than opium to forestall the cerebral congestion; as to ergot, it has been often used by Dr. O. H. Smith, who looks upon it *almost as a specific for mania à potu*. To pretend, nevertheless, that delirium tremens can yield in all the cases to an invariable treatment, or that a single remedy, such as opium, ipecac, ergot, etc., etc., must be exclusively used in them, is surely an error. Whatever be the beneficial results each of these agents might have in certain cases, they indeed do great mischief if administered in a loose and indefinite manner. The opposite properties of these numerous species would themselves be enough to create distrust in their absolute efficacy, if a more powerful evidence was not besides afforded in the character of the disease itself. Unprejudiced experience proves that in the vast majority of uncomplicated cases the expectant treatment is the most successful and the only rational one. It is then essential to avoid restraint as much as possible; the use of the strait-jacket always increases the restlessness of the patient, from the efforts he makes to free himself from it. On the other hand, uncontrolled exertion of movements in a cool and well ventilated room, constantly has a beneficial result; and joined with the exhibition of acidulated effervescent draughts with ammonia sesquicarb. gr. x. to xvij., to calm the irritable stomach, speedily improves the condition of the patient. The treatment, so directed, does not last longer than any other method. Of course we need not state that emetic, purgative, and the antiphlogistic means should be employed when we have to contend with an inflammatory or an abdominal form of the disease. In repeated attacks, when delirium tremens freely assumes the characters of peri-encephalitis, the treatment must be energetic. The restoration to health is very rare, and even then is simply temporary, because the brain is deeply injured. Under these circumstances the antiphlogistic treatment is of advantage, as also cold applications to the head, which repeatedly used are followed with marked benefit, especially if resorted to after local bleeding by leeches at the back of the ears. If any inflammatory condition exists besides in the thoracic or abdominal organs, it deserves early and close attention; the depletive and purgative system must be, however, managed with great caution, and never carried on too long, as they may prove highly exhausting. Once the source of inflammation removed attention should be paid to diet, in order to improve the altered condition of the nervous centres. But, as already stated, it is not frequent to meet with chronic cases of delirium tremens completely recovering; generally they are succeeded by dementia and progressive general paralysis, and not seldom by epileptic fits.

The free indulgence in spirits may be a source of other disturbances in the nervous system, aside from those which give rise to attacks of delirium tremens. Intemperance has an important share in the aetiology of chronic inflammatory

diseases of the brain, and in the so-called white softening of the nervous system. It may, besides, produce other phenomena resembling those in shaking palsy, such as a general tremor with thickness in the speech, headache, weakness in the limbs, and disturbances in the digestive functions. This train of symptoms may present relapsing exacerbations, most likely induced by subacute inflammatory congestion of the brain, and which are precursors of progressive paralysis and frequently of epileptic fits, having a dreadful form. The fatty degeneration which is observed upon chronic cases of delirium tremens, and the well known advantages of the iodide of potassium in white softening of the cord, likewise due to a fatty degeneration of the organ, suggested to me the idea of trying that remedy in order to forestall the effects of the above morbid condition. I have employed the iodide of potassium in the two cases recorded further on. Although in one of them the improvement was temporary, it is, however, evident that the remedy had control upon the disease. I will not draw any general deduction from those cases, neither will I pretend to explain the manner in which iodide of potassium acts under these special circumstances. Whether it determines the resorption of the fatty elements occasioning a new development of normal ones, or whether it has any other influence, it is a question which yet remains to be solved.

CASE I.—R. F., et 49, applied to me the 18th of June last. He is a mechanical engineer, a tall stout man, of dark complexion and very active in his habits. For the last eight years he has lived in the West Indies, and indulged himself too freely in beer and spirits. He had twice gonorrhœa before being married, but never had syphilis; is the father of three children, and his wife has never miscarried. He had been subject for the last two years to constant headache, with nausea almost every morning, and obstinate constipation. To avoid these symptoms he had taken repeatedly all kinds of purgatives, and lastly some doses of wine of ipecac. Since last December he suffered from formication and weakness in the limbs, and from more violent headache. About the end of April, on his journey to this country, he drank very freely, and the day after his arrival in this city he became feverish, very restless, and a little delirious. These symptoms subsided with purgative treatment and tepid baths; but ever since he was very excitable, sleepless, and felt at times a tremor in his limbs and difficulty in the speech. On examining, I found that the limbs were not wasted, their temperature was normal; all the movements were perfectly executed, but he could not grasp strongly with the left hand, nor stand steady on the left leg. If the eyes were closed while standing, he seemed to lose at once his equilibrium and was all the time unsteady. There was some degree of anaesthesia in the legs; their reflex movements, however, seemed increased. The left pupil was more dilated than the right, but sight was unimpaired. The speech was thick and the intellectual faculties were dull. The tongue coated and the appetite lost. The pulse was rather frequent and soft (88). No morbid sound in the heart; its beating was, nevertheless, weak and scarcely perceptible to the hand. The patient had never had rheumatism nor any other disease, except the yellow fever. I tried his urine the 19th of June; it was acid, pale, and contained a small quantity of albumen.

I advised the patient to abstain from beer, and only drink some dry wine with his meals, to regulate his diet, and to take gr. v. of iodide of potassium in half an ounce of inf. calumba, thrice a day, half an hour before meals. He was likewise directed to drink iced-lemonade in the daytime, and to take every other day a tepid bath with four ounces carb. potassæ, in order to increase the functions of the skin. In two months the patient was so much improved with this treatment that he thought himself cured; I advised him, however, to pursue this plan for a longer period, and not to drink again to excess. The 23d of September last the improvement was still maintained, but having returned to Cuba and resumed there his irregular habits, I have been informed that he had lately a sudden epileptic fit which has

been followed with decided symptoms of general paralysis and furious mania.

CASE II.—The 26th of last August, I was called to attend a woman, *et. 38*, native of Ireland. She was married; and two months previous to the above date, was delivered of a dead child eight months old, and flowed then profusely for a few days. She has been three other times pregnant, always miscarrying before the term of her gestation. She never had syphilitic disease, but stated that her husband had been troubled with *secret diseases*, which had made her very unhappy. Grieved from this cause, she had, for the last two years, addicted herself to the habit of drinking brandy and beer. A month before she suddenly became insensible and much convulsed, but did not bite her tongue; she was then for several hours drowsy, and ever since has had headache, with giddiness and weakness, tremor, and also numbness in the lower limbs. Her menstruation had not yet been re-established, and there were present leucorrhœa and pain in the loins. Three days before, during the evening, she was taken with another attack of convolution, followed by slight delirium, which lasted twelve hours; the following day she was restless, and whenever she was raised vomiting supervened. The day I saw her she was better, but complained of violent headache, was still drowsy, and though at times delirious was, nevertheless, perfectly conscious. The skin was hot and moist, especially in the forehead: the pulse frequent and soft (105); respiration about 30; pupils contracted; tongue coated with a whitish fur; there was no vomiting, and constipation had existed for these four last days. The power and sensibility of the limbs seemed impaired, the left arm was weaker than the right, as she could not grasp with the left hand so well as with the right. None of the limbs were wasted, and they exhibited a constant slight tremor. The speech was thick, and the patient was slow in her answers. The neck of the uterus, enlarged and very sensitive, was the seat of an ulcer bleeding at the slightest touch.

I looked upon all these symptoms as the result of a subacute inflammatory congestion of the brain, induced by the abuse of alcoholics, and most likely seated in the vicinity of the oblong medulla, on account of the convulsive character of the disease. A purgative with the citrate of magnesia was at once prescribed; as also constant applications of ice to the head, and warm bottles to the feet. Iced lemonade to drink was given after the bowels had been relieved. The purgative acted freely, and the condition of the patient was much improved in the evening—the pulse came down to 86, and the skin was pretty nearly natural. I put the patient then on the iodide of potassium, five grains in half an ounce of decoction of bark every four hours. She was directed the day after to take some beef-tea, and a table-spoonful of whiskey three times a day; and although her condition continued to be better, it was not until the third week from the beginning of the treatment that the symptoms in the limbs decidedly began to yield. Menstruation appeared on the second month. While the above remedies were employed, the uterine ulcer was also treated with local applications of perchloride of iron and the nitrate of silver, alternately employed once a week, together with injections of fresh water morning and evening. The use of iodide of potassium gr. v. thrice a day, was persevered in for six months, the patient had left her intemperate habits, and as she had not been troubled up to this date with any other nervous disturbances, it was fair to suppose that the iodide of potassium stopped the morbid change which was very likely undergone by the nervous centres.

This case is also interesting on account of the influence which syphilis in the husband had to produce the repeated miscarriages. I have not been able to ascertain if in any of the different times the *fœtus* was born with external evidences of syphilis; and I think that the mother was not infected with it, because she did not present any of the secondary or tertiary symptoms of the disease. It is otherwise certain that syphilis becomes the source of nervous

disturbances which may be mistaken for those brought on by the abuse of alcoholics. The distinction between them may be, however, easily made. It is important to bear in mind the age of the patient, for cerebro-syphilitic diseases frequently occur at an earlier period of life than those due to any other causes. The nervous disturbances, and secondary or tertiary signs of syphilis, always accompany each other; besides, and this is a very essential character, with progressive syphilitic paralysis there is usually some impairment in the functions of the muscles of the eye, or of the eye itself (sclero-choroiditis, œdema of the retina, atrophy of the papilla, etc.), whereas, in paralysis from insanity, or chronic alcoholism, the functions of the eye are seldom involved, those of the tongue being mostly affected. Another difference is likewise observed in the characters of the headache: this symptom in both diseases may become more intense during the night, but with syphilis almost always it happens that the pain has a fixed and constant position, commonly in the forehead; whilst in the other cases it is diffuse, and does not exhibit so constantly the nocturnal exacerbation, nor the extreme violence of syphilitic headache, besides accompanied with pain in the bones, vertigo, affections in the throat, and generally incomplete paralysis.

REMARKS UPON DIPHTHERIA.

BY EZRA M. HUNT, M.D.,

OF NEW JERSEY.

(Continued from page 245.)

In the internal local treatment the probang is to be abhorred. If, as in this case, you see the exudation early enough circumscribe it with a strong solution of nitras argenti, applied by means of a large hair pencil, such as you may get at a depot of artists' materials or of some druggists. We doubt whether this caustic is of any value operating only upon or through the exuded membrane. The best gargle we are acquainted with is one made of salt, vinegar, molasses, Cayenne pepper, and water, in proportion about as follows:—Chlorid. sodii 3*j.*; aceti acidi diluti 3*j.*; treacle 3*j.*; pulv. capsici 3*j.*; aquæ puræ, q. s. To be used frequently, but without straining the throat by prolonged use. A stimulating gargle like this we have found of great value in the angina variety of scarlatina, and it is equally serviceable here, as there is no tendency to dynamic inflammatory action, but even the inflammatory tendency is typhoid. Where there is marked fetor which the internal medicines and this do not obviate, as rarely occurs, Labarraque's solution, chlorate of potash, or brewer's yeast, may be freely used. A saturated solution of tannin or alum is a favorite gargle with some. We deem these of little value except during the early formative stage of the membrane. Here, by its constriction, it may act mechanically to corrugate the throat and break up the attachment of the membrane, or as some think specifically as a preventive of exudation.

Externally counter-irritation is desirable, and here in the country a slice of well salted fat pork produces about as pleasantly and rapidly as is desirable a papular eruption all sufficient. Over enlarged glands we have, in common with others, used Lugol's solution, but in bad cases it scarcely acts rapidly enough to produce its specific effect. Such are the general and local plans of treatment which we believe to furnish the best hope of recovery. I formerly used the mineral acids quite freely, but in some cases they seemed to me to impair the tone and power of the digestive organs, and to prolong a subsequent anæmic condition. I have seldom found the murias *tinctura ferri* administered as above, and still more diluted if need be, to disagree. The well established value of the chlorate in stomatitis, ptyalism, and other forms of constitutional affections of an adynamic character with local manifestations, and the benefit of the muriate in erysipelas, scarlet fever, and such low grade inflammations, would lead us to anticipate some value from them in this kindred disease, and they do not dis-

appoint us in the only true test of treatment. Chemistry cannot explain it, for whether the chlorine acts as a disinfectant, or the chlorate of potash as a tonic (Tully and Percy, good authorities, deny it), we cannot determine, or whether the muriate is decomposed, and at once adds itself as an important constituent to the blood, we are not sure, but they do aid in the control or abatement of the disease. Nor is the opiate to be undervalued. There is astonishingly little tendency in this disease to death by *coma*, except where the swelling of the glands retards circulation, or where mechanical closure about the laryngeal region interferes with respiration. The ailment in its start has a prominent nervous element, and the *laudanum*, acting first as a stimulant as in hemorrhage, then as a sedative and soothing an excited circulation, procuring sleep in the midst of restlessness, used judiciously and in early stages, is of no small service.

Those cases in which there is no very extensive deposit in the fauces, and yet in which the whole system seems prostrated, and the powers of digestion and assimilation greatly impaired, though not rapidly fatal, yet not unfrequently after three or four weeks wear out the life of the little sufferer, and for successful treatment require of the physician strict attention to all dietetic rules and laws of digestion as well as to the administration of medicines strictly so called. Milk, eggs, and the most easily assimilated food must be provided, care being taken to give the stomach proper intervals of rest; stimulants will need oftener to be used instead of food nutrients; vegetable bitters, such as wormwood, Huxham's tincture, etc., may avail where quinine will seem to disagree. Milder chalybeates, such as Blancard's pills, etc., may be required, and withal the best sanitary and hygienic measures combined. Bathing the surface with warm brandy and milk, cod-liver oil, or some other nutrient material, may enable the skin to help in the work of regeneration, and thus all reasonable means must be used to wear out the disease before it does the patient.

Of malignant diphtheria the following case is a type:—In a family in which a child had been several days sick of the second form, a little girl of eight summers complained one Sabbath afternoon of a little soreness of the throat. A casual examination in passing exhibited some diffused redness of the fauces, without any exudation whatever, but as the pulse was frequent, and nervous for fear of the disease, chlorate of potash was prescribed. On Monday morning the glands about the neck were enlarged, the tonsils swollen, and slight points and strings of exudation sprinkled all over one tonsil. Constitutional symptoms were intense, indicating the active use of remedies. Tuesday morning the throat was enormously swollen, deglutition difficult, pulse not rallied, the throat and palatine arch covered with exudation, extremities purple and cold; death master. The child lived until Thursday morning, all the time sensible, at intervals playing with its toys, but pulseless several hours before its death. I know no treatment for such a case except to call to our aid all the dynamics which our art can furnish; and though I have great faith in medical progress I expect not to see such an ailment manageable until malignant scarlatina, concrete variola, typhoid pneumonia, and the plague, become subject to the powers that be.

As to the importance of prophylactic means, and their availability, our confidence in them is continually increased. The first cases in a family are generally the most malignant; and where chloride of lime, tar simmered over a fire, and care used about the residence, and chlorate of potash, good food, abundance of salt, and placidity of mind are advised, the after cases seem quite manageable. It has never happened to me to lose any case occurring in a family after such a course had been fully initiated, and I believe it our duty in every case to enforce such a course.

In connexion with this disease, so far as hypothesis is concerned, it is proper to inquire whether the morbid poison of the disease, whatever it may be, does not operate by destroying or enfeebling the cohesive or solvent proper-

ties of the blood by depriving it of its salts, or in some way rendering them inert. "The use of the saline matter," says Carpenter, "is evidently in part to prevent decomposition in the circulating blood." It almost seems as if something the same process of separation takes place as when blood is drawn from the body, and as here certain salts retard the separation, so may not these remedies used act upon the circulating fluid of the system? Has any minute chemical examination of the blood been made in connexion with diphtheria in order to determine whether any change has taken place in the saline constituent? Does the swelling of the glands about the neck depend upon the absorption of the membrane found about the fauces? Some have advocated active interference with it on this ground, but it seems to us that, as in bilious and other fevers, such enlargement is not a result of absorption from the locality, but only an indication as to the fact of the lymphatic system being affected by the virulence of the poison.

As to the sequelae of diphtheria, they furnish material for much remark, but as we have met with none of them save anaemia, not very persistent, and slight local paralysis about the voice organs, we shall leave these to be elaborated by those of larger experience in this direction.

THE POINTS OF ELECTION AND KIND OF OPERATION, FOR AMPUTATION OF THE LOWER EX- TREMITIES.

WITH REFERENCE TO THE USE OF ARTIFICIAL LIMBS.

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[From the Transactions of the Medical Society of the State of New York.]

POINTS OF ELECTION.

SINCE an early period in surgery, surgeons have recognised the importance of selecting such points for amputation of the lower extremities, as were best adapted to the application of artificial limbs. Many of the authors of works on surgery have given such points as were considered best adapted to the artificial limbs made at that time, but the great improvements which have been made in artificial limbs have materially changed the old points of election; therefore this subject demands the attention of surgeons generally.

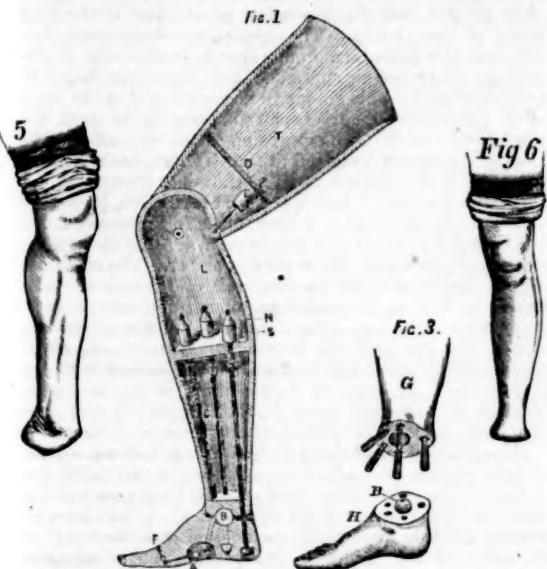
In accordance with the high state of perfection now attained in the construction of artificial limbs, all amputations performed on the foot should be anterior to the insertion of the flexors of the foot. The operation known as "Chopart's," severs the flexors of the foot, and should never be performed under any circumstances whatever. The moment the flexors are severed, the extensors, having no antagonists, draw the heel upward, extend the foot on the leg, and cause the amputated surface to point almost directly downward. This deprives the patient of all power to use the remaining portion of the foot, and also renders him incapable of wearing a useful substitute. I am aware that, to obviate this difficulty, some surgeons have severed the tendo-achillis, but that has proved ineffectual; it is only a partial relief at best. Therefore amputation at this point renders the patient a hopeless cripple. The wound is slow to heal, always tender, often ulcerating, and the remaining portion of the foot is generally a curse to the patient as long as he lives, unless he submits to a secondary amputation.

It is but a short time since the Prof. of Surgery in the Geneva Medical College performed secondary amputation for such a patient. This patient has had the tendo-achillis cut twice, and then made an unsuccessful effort to wear a substitute constructed by a noted firm in New York city, but at last, to better his condition, was obliged to submit to re-amputation. (See cut, Fig. 5, which represents a stump after "Chopart's operation.")

Amputation through the ankle-joint by sawing through

the malleoli, known as "Syme's operation," is less objectionable; still, since the artificial leg has been brought to such perfection, there are reasons which weigh heavily against this operation. The ankle-joint in the artificial leg should correspond with the one of the natural leg, but cannot in this case, and be constructed after the most approved plan, on account of the length of the tibia and fibula.

The lower portions of the bones occupy space which is needed for the artificial joint. (See cuts, Figs. 1, 2, and 3.)



For amputations below the knee, the cords C, Fig. 1, have to be shortened according to the length of the stump, until the springs, S, rest on the plane seen just above the ball B, and cannot conveniently be placed any lower. This illustrates the necessity of removing at least the ends of the tibia and fibula.

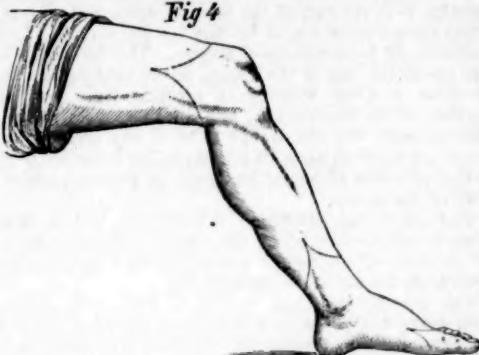
To get a good fit with an artificial limb, the stump should be conical, or at least it should not be larger at the end than it is higher up, as it renders a portion of the interior of the artificial too large, if made large enough to allow the bulbous extremity to pass through. (See cut, Fig. 6, which represents a stump after "Syme's operation.") Or if the leg is made to lace up, even then the ankle is necessarily large and clumsy.

It has been supposed that by this operation the patient would be able to take the most if not all his weight upon the end of the stump, but the cases which I have seen do not sustain the supposition. I have not seen one that could support the whole weight on the end of the stump, though a few could sustain some, not enough, however, to counterbalance the difference in the substitutes; while others could not bear any more than those who are amputated higher up. Therefore, when amputation becomes necessary which would sever the flexors of the foot, it should be performed a sufficient distance above the ankle-joint, to admit of an artificial substitute with an ankle-joint of the most perfect construction now attained.

The junction of the middle and lower third of the tibia is the lowest point at which amputation of the leg can be performed, and give sufficient room for the construction of a good, substantial, and graceful artificial limb, with an ankle-joint of the most recent improvement. It also gives a stump of as much length as is of any service to the patient, therefore the junction of the middle and lower third of the tibia should be the first point of election whenever the flexors of the foot cannot be saved. (See point indicated on leg, cut Fig. 4.)

An artificial leg, with lateral motion at the ankle-joint, will bear a stump of greater length, with comfort to the

Fig. 4



patient, than one which has no lateral motion at the ankle. The testimony of those who have undergone re-amputation is, that with a very long stump and an artificial leg which had no lateral motion at the ankle, they suffered much more from the cramping and prying of the stump against the sides of the leg when they stepped on any uneven surface, than they did after re-amputation, with a stump of less length. The fact that the junction of the lower and middle thirds of the tibia gives a stump of as much length as is of any service to the patient, is important in this connexion. Then from this point the surgeon should not recede unless compelled by necessity. He should contest every inch until driven to the knee-joint. But he should never operate through the knee-joint, as nothing is gained by it, while much is lost, because the end of the femur will occupy space which is needed for the construction of an artificial knee-joint. True, an artificial joint has and can be made in this case, but not near as durable and comely as when the condyles of the femur are removed. The size of the condyles makes the end of the stump too large, and the same objection arises as in "Syme's operation."

If the femur is sawn through just above the condyles, the stump assumes a conical form, and the end of the bone no longer presents any obstacle to the construction of an artificial joint of the most modern improvement. Then for amputation of the thigh, the point of election is just above the condyles of the femur. From this point upward the surgeon should contest every inch with redoubled vigor. And the higher compelled to go, the greater the value of every item of femur saved.

KIND OF OPERATION.

In the use of artificial legs no weight is ever taken on the end of the stump; in fact, nothing is allowed to touch the end of the stump. But on the sides it is just the reverse. The artificial leg encases the stump, and more or less pressure is taken on all sides, particularly anteriorly and posteriorly. The stump is used as a lever to operate the artificial leg, and at every step there is considerable pressure on the anterior surface in carrying the leg forward, and then it is transferred to the posterior surface, just as the weight of the body is being carried forward on to the leg. Thus there is a pressure alternately on these two surfaces at every step. Besides this, with a leg in which there is no lateral motion at the ankle-joint, there is more or less cramping and prying of the stump against the sides of the artificial leg whenever the foot is placed on an inclined plane, or one side happens to be placed on any inequality, such as a stick or stone, or uneven ground of any kind. Now as the cicatrix is always tender and sensitive, it becomes necessary that, in amputating the lower extremities, the surgeon should choose the kind of operation which will best protect the stump on all sides, particularly the anterior and posterior.

The operation which fulfills these indications best, is the *double flap*, the flaps being antero-posterior.

If the flaps are taken from the antero-posterior surfaces, they lap over the end of the bone or bones, and protect the edges by means of sound healthy integuments in all cases, and in many by a cushion of muscle. This brings the cicatrix across the end of the stump, where nothing can touch or injure it when wearing an artificial leg. Very small portions of the cicatrix may in some cases pass up on the sides laterally, but not enough to be of any account in the use of an artificial leg with lateral motion at the ankle-joint, as that prevents all lateral cramping or prying against the sides of the stump.

The single flap operation is decidedly bad, because it often, if not always, brings the cicatrix just across the edge of the bone, where from its sensitiveness it seriously interferes with the use of an artificial leg.

The circular operation would, at first sight, appear to fulfil every indication, as it is alike on all sides, but unfortunately, instead of protecting all sides, it is really just the reverse. As soon as the weight of the body is placed upon the stump with a circular operation, the whole muscular covering, with the integument, glides upwards in a body; the end of the bone or bones protrudes beneath, covered by a thin cicatrix only, and instead of being protected on all sides are really protected on neither. Thus it is seen that the *antero-posterior flap operation* is THE operation, to be performed, whenever the surgeon has the privilege of choosing.

Reports of Hospitals.

NEW YORK EYE INFIRMARY.

STAPHYLOMA CORNEÆ,

WITH CASES AND REMARKS,

BY HENRY D. NOYES, M.D., ASSISTANT SURGEON.

THE surgical proceedings in cases of staphyloma corneæ are three in number, namely, iridectomy, ablation of the staphyloma, and extirpation of the globe. I offer the following illustrations of two of these methods, with remarks upon the merits and applicability of the several operations. I may observe that there have been two cases of ablation of staphyloma under the care of Dr. John H. Hinton, of which one case never returned after the operation, and of the other, notes were not retained. One of them, at least, made good, although slow recovery.

I.—*Staphyloma; Extirpation of Globe.*—Virginia C., *et al.* 11. For four years has had successive attacks of keratitis of the left eye, until by repeated ulceration the cornea, softened and thinned, yielded to the pressure of the ocular fluids. The staphyloma is globular in form, of a dead-white color, not so large as to prevent the complete closure of the lids. The conjunctiva and sclerotic are in a state of congestion, and the opposite eye is also reddened. Lachrymation from both eyes is constant. The staphyloma being total, the cornea in a state of chronic inflammation, and the protrusion being great, precluded the hope of reducing the staphyloma by iridectomy. The subacute inflammation of the conjunctiva of both eyes was a sufficient reason against the additional risk of inflammation, which would follow the ablation of the staphyloma. I therefore proceeded to extirpation of the globe. On the ninth day patient left the Infirmary, the healing of the tissues not being quite perfect, but she had been going about the wards for a week. The conjunctivitis of the other eye disappeared spontaneously; all that remained to require treatment was slight ophthalmia tarsi. At the end of a fortnight an artificial eye could be worn. I might multiply instances like the above, but they would have great uniformity of history and result.

II.—*Staphyloma Cornea; Hernia Iridis; Iridectomy; Cure.*—Sailor, *et al.* 32. Eight years ago an injury of the right eye produced opacity of the cornea with anterior synechia of the iris. In January he came to the Infirmary having keratitis with hypopygium. He was treated with tonics, solution of atropine gr. ij. ad aquam ʒj. freely employed, paracentesis practised several times, and he recovered. After a month a relapse took place, keratitis with hypopygium, and also ulceration of the cornea. This attack was more distinctive than the preceding, the hypopygium greater, and the ulceration penetrating to the deep layers of the cornea. The hypopygium disappeared, but although the acute symptoms abated, congestion of the anterior ciliary vessels continued, and the cornea began to bulge forwards. This gradually increased, and at the apex of the prominence the iris began to appear in the form of a small black vesicle. The extrusion of the iris and staphyloma of the cornea increased in spite of atropine and paracentesis. I determined upon performing iridectomy. I excised a section of the upper part of the iris, through a wound a quarter of an inch long, made in the sclerotic one line from and parallel to the limbus corneæ. A little hemorrhage took place into the anterior chamber. The operation slightly aggravated the previous sclerotic injection. The wound in healing continued prominent for several days. After forty-eight hours the prominence of the cornea had abated, the iris no longer protruded. Three weeks afterwards all hyperemia has disappeared, the cornea is flatter than natural, no trace of hernia iridis is to be seen. Through the opening made in the iris, patient can discern large objects, the corneal opacity growing thinner.

III.—*Partial Staphyloma of Cornea; Iridectomy.*—I introduce another case, which did not occur in the Infirmary. A lady, living in Brooklyn, had a partial staphyloma of the upper and inner border of the left cornea. It had been of gradual growth for twenty years, and was the result of ulceration of the cornea in childhood. The prominence was densely white, acuminated, its base probably three-sixteenths of an inch in diameter. It arose close to the sclerotic border, while the rest of the cornea was transparent, the pupil circular and contractile. Minute vesicles, like sudamina, occasionally formed upon the apex of the staphyloma, and were the cause of considerable irritation. The staphyloma was increasing very gradually. Vision was such as to read No. 14 (Jaeger) or Paragon type. There was no general hyperemia of sclerotic, while a few large vessels ran towards the staphyloma.

I suggested and performed iridectomy, doing it at the upper part of the iris, the wound being in the sclerotic one line from the corneal edge. The eye was closed with isinglass plaster, which was renewed on the second day, and finally removed on the fourth day. No pain, edema of lids, nor inflammation followed the operation. There had been no bleeding into the anterior chamber. A week afterwards the eye was free of congestion, the staphyloma was evidently flatter than before. On the eleventh day the lady was able to come to my office, and the prominence of the staphyloma is gradually diminishing.

IV.—*Staphyloma of Cornea; Iridectomy; Suppuration of Globe; Extirpation.*—I present the following case, because it is instructive in several points, and showing what may complicate the operation.

Mary McG., *et al.* 17, for many months suffering from granular conjunctivitis with pannus of the cornea, came to the Infirmary in February. After two months' treatment, consisting of general tonics, atropine in the eyes, and tr. iodine to the forehead, the acute symptoms of keratitis passed away. Photophobia, lachrymation, pain, congestion of the sclerotic disappeared, while the opacity of the cornea began to clear up. No nitrate of silver was employed, the corneal inflammation utterly forbidding, in my opinion, the employment of it or of any irritant. The left cornea was in a state of total staphyloma, the elevation not very large but deeply opaque, a ring of clearer substance remained at the extreme edge of the cornea.

For the sake of reducing the staphylooma, as well as to take advantage of the clear margin of cornea, I determined upon iridectomy. The section was made at the lowermost part of the globe, the point of the straight lance knife entering the sclera at one-eighth inch from the cornea, and pushed very obliquely through into the anterior chamber. The stimulation of ether, and the manipulation of the eye, induced extreme turgidity of the recently congested zone of vessels surrounding the cornea. Through these distended vessels the knife penetrated, and in consequence the bleeding was very free. It even required the liberal use of sponges. The anterior chamber, when I was at last able to use the forceps, and seize the iris, was full of blood. Bleeding was renewed upon cutting off the bit of iris, and continued some minutes. The eyelids were therefore left unstrapped. Severe inflammation followed, which in spite of leeches, and paracentesis, etc., etc., culminated in rupture of the cornea by suppuration of the globe. During the week while this process was going on, two smart hemorrhages occurred from the interior of the eye.

The younger the child is the less likely is a happy termination of the case after the operation to be presumed. In a "Lettre des Internes à l'Hôpital des Enfants à M. Bouvier," they recommend not to operate on children under two years of age, and on those from two to two and a half only with reluctance. The reports of cases of successful tracheotomy in children under two years are scarce, it is true, but Rousseau saved by the operation a child of thirteen months, still nursing. Scoutet's famous case shows, at least, that a child of six weeks may be operated on with success if such an unusual event should ever present itself again. (It was Scoutet's first operation, relating to his own child, but it is more than doubtful if the affection of the child was croup or rather laryngismus). The youngest child I operated on was twenty months, the youngest saved was one two years four months; I also saved one two years six months, both girls.

(To be Continued.)

SURGICAL SECTION.

NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, March 28, 1862.

DR. JAMES R. WOOD, CHAIRMAN.

(Reported by J. P. GARRISH, M.D., Secretary.)

TRACHEOTOMY IN CROUP.

Dr. A. L. Voss opened the discussion on the subject of tracheotomy in croup, remarking as follows:—In opening for discussion the subject of Trachetomy in Croup, I have to state that, having published more than two years ago a paper, entitled "A Historical and Critical Examination of the Operation of Tracheotomy in Croup, with a Report of fourteen cases" (*New York Journal of Medicine*, January 1860, pages 30-59.), I shall refer to the paper repeatedly. Doctor Francis Home of Edinburgh, published the first monograph on croup in 1765; his book contains, on the subject of the operation in question, the following words (page 59): "When the case is desperate, may we not try bronchotomy? I can see no weighty objection to that operation, as the membrane can be so easily got at, and is very loose. Many a more hazardous operation is daily performed. I would propose, however, that it should be first tried on a dead subject, that we may proceed with all manner of caution and assistance. But something ought to be tried in this dangerous situation." You see how early the operation, as a last resort, presented itself to the plain and simple reasoning mind. The earliest, although unsuccessfully performed operation of tracheotomy in croup, I am able to find, is by Duntze of Bremen, about 1790; the first case successfully operated upon is that by Thomas Chevalier of London, in 1814. But the more general introduction of the operation we owe to the labors of Bretonneau (his first success in 1825), and to his pupils

and followers, Rousseau, Velpeau, and Guersant. I believe now that there are very few who object to the performance of the operation in croup in general, and the Academy of Medicine in Paris declared in the celebrated discussion upon this subject, and the "Tabage" in 1859, that tracheotomy is, in the actual state of science, the only remedy to resort to, if there is no more chance of relief by medicinal substances. From France the operation came in general use in Germany, then in England, and lastly here.

As causes for the want of success in the earlier cases of tracheotomy, we have to point out, first, the treatment before the operation, antiphlogistics, or at least weakening remedies, such as blisters, etc., used freely; second, the operation, if resorted to, was performed at the very last moment; third, the manner of operation, the instruments, and the after-treatment, were alike defective. At present these causes of failure being for the most part removed, the success in consequence is much greater.

Guersant operated twenty-three times before he could boast of a successful case, and he had but seventeen successful cases out of eighty-two operations. I have thought it would be interesting to make the following statement in reference to the number of operations performed by different French surgeons, and their results, as I have been able to gather them from the French literature upon the subject.

	No. of operations.	No. saved.		No. of operations.	No. saved.
Rousseau 1850-55 (private practice)	42	22	Favre	6	—
Gerry	6	4	Auzias	2	1
Archambault	12	7	Robert	23	1
Gosselin	23	—	Neïaton	36	3
Brochin	3	—	Dobert de Lamballe	60	10
Follin	15	2	Lenoir	20	1
Bora	10	6	Desormeaux	11	2
Depaul	7	1	Monod	40	—
Richard	12	2	Thiéry	87	8
Quérin	12	1	Roser (Marburg)	42	19
Michelin	20	2	Passavant (Frankfort)	9	5
Deljuise	12	—	Fock (Magdeburg)	24	10
Langler	8	1	Baum (Göttingen)	—	—
Huguer	8	—	gen)	31	12
Velpeau	18	4	Peinemann (ibid.)	8	5
Jarjay	12	—			

Of 131 operations performed by eight French physicians proper, 49 were successful; of 443 cases operated on in the Hôpital des Enfants trouvés from 1850 to July 1858, a period of eight and a half years, 100 were successful.

In regard to the number of operations performed in this city I have not at present the means of giving any reliable statistics. It is worthy of remark, that I have not yet heard of a successful operation in New York during the year 1859 (famous for diphtheria).

All these statistical data are, however, worth but little when we consider the great want of detail in the description of the symptoms of the malady. Real croup, I fear, is a disease of unfrequent occurrence, but much more fatal than usually believed. It is a specific disease (of zymotic character), sometimes local only, sometimes accompanied with general disturbance, sometimes sporadic, sometimes epidemic, and even contagious, wholly distinct from inflammation or catarrh.

The anatomical alteration pathognomonic of croup is the false membrane, lining and blocking up a more or less considerable portion of the air-passages, which gives rise in turn to dyspnea, asphyxia, and sopor. Now, when insufficient respiration is present with commencing asphyxia, and is not dependent on affections of the lungs, and is not relieved by emetics, or perhaps other medicines, I think the operation of tracheotomy should be performed without hesitation. Tracheotomy is indicated where stenosis of the larynx or trachea exists. There we ought to resort to tracheotomy, in order to give free access of air to the lungs. If these organs are sound, the operation is *ceteris paribus* imminently a life-saving operation. If the lungs or the general system are otherwise affected, we, by freeing the patient from the imminent danger of suffo-

cation gain time to treat the accompanying affections by the proper means. I will not speak of the danger of the operation as an additional complication to the already affected organ, as this subject is differently judged of by different authors. Tracheotomy stands, in this respect, on a level with other life-saving operations, herniotomy, ligature, caesarean section, etc., and the same reasons sustaining such operations will be also applicable to tracheotomy. It ought to be remembered, that unrelieved stenosis of the larynx is absolutely fatal, even uncomplicated by other affections. As general diphtheritic intoxication or bronchitis, or bronchial croup, or pneumonia, or emphysema, are not affections absolutely fatal like stenosis of the larynx, in case the latter affection should be complicated with one of the former, the removal of the stenosis even by an operation would not only be justified but required, and it is obvious that the happy termination of the operation in complicated cases, or in very young children, is by far less frequent than in cases of no complication or in older children.

As a measure of humanity, and to remove a cause of offence to the remaining eye, I extirpated the suppurating eye. The operation was effected with great difficulty by reason of the free bleeding, of the adhesions of the globe to the orbital tissues, and of the partial collapse of the eye. I could not avoid snipping the softened sclerotic with the scissors, especially when attempting to clip the optic nerve.

I carefully dissected the eye. The cornea was opaque, softened, and ruptured; no trace of the lens; I presume it had been absorbed before patient came to the Infirmary. The vitreous infiltrated with inflammatory exudation. The iris and choroid so soft and congested that I could scarcely use forceps without tearing them. There was a clot of blood spread out between the sclerotic and choroid at the upper part of globe, and another clot between the same tunics near the place of iridectomy. The wound of the sclerotic made in the operation is five-sixteenths of an inch long, it opens into the anterior chamber exactly at the internal edge of the cornea; I found the section of iris had been removed entirely to its circumference, and that also the tips of the ciliary processes for a corresponding breadth had been torn off, or perhaps cut off. Microscopic examination was not made, the points of chief interest being surgical. After loss of the eye, oedema of the lids abated, and patient became quite comfortable.

(To be Continued.)

American Medical Times.

SATURDAY, MAY 10, 1862.

CLAIMS OF MECHANICAL SURGERY.

SURGERY has not made more rapid advances in the conservation of limbs hitherto doomed to destruction, than has mechanical surgery in supplying the defective parts. It is quite impossible, nowadays, to determine what part of an individual is natural, and what artificial. Of ten men who walk the street each with an artificial leg, in nine we are more liable to fix the disability upon the natural than the artificial limb. The western bride who was thrown into convulsions on seeing her bridegroom suddenly deprived of an entire leg by a waggish friend, illustrates in one of a thousand ways the present perfection of the appliances of mechanical surgery. We now have artificial teeth which baffle even dentists to detect their genuineness; and artificial eyes which flash with intelligence, sparkle with merriment, and doubtless roll with the fine fancy of the poet.

Even nasal appendages are now manufactured to order so as to imitate exactly the natural tint of that organ, or the more brilliant colors of the acne rosacea, not infrequent in the higher circles of society.

But mechanical surgery is only in its infancy; most of the improvements which we witness date back but a score and a half of years. The clumsy appliances for legs which fifteen years ago represented the highest degree of art, would not be sold by any respectable manufacturer of our time. The same is true of artificial hands, trusses, etc. The genius of American invention once directed to this fertile field for useful and profitable effort, there is no limit to the advances which it will make. Already in the treatment of deformities, mechanical appliances are accomplishing results which lead us to anticipate that they will yet monopolize this entire field of practice.

Mechanical surgery is a legitimate branch of the healing art. Whatever unprofessional men may have accomplished in the way of invention in any of its departments, has for the most part been the result of accidental circumstances. A farmer, annoyed by a hernial protrusion, has sat down at the side of his plough and whittled a block into a form that, when applied, answered its purpose well. It is often alleged in recommendation of an artificial leg that the inventor had an amputated limb, which directed his attention to this special study, and led to the invention of the limb in question. But mechanical surgery is not a simple branch of mechanics, to which any ingenious artisan can successfully turn his attention; it combines also an accurate knowledge of anatomy, of physiology, and of surgery, to pursue his profession. Rationally, the Mechanical Surgeon, or the "Surgeon Artist," to use an elegant phrase, must be a thoroughly educated physician as well as an inventive genius. A man might with as much propriety prescribe remedies without a knowledge of diseases as undertake to apply properly a truss without a knowledge of the anatomy of the malady. The same remark is true of every branch of mechanical surgery. Quackery in this department, or the pretensions of uneducated and unqualified men, are as gross and glaring as in the simple practice of physic.

The medical profession have too long regarded mechanical surgery as the legitimate field of non-medical men, or medical speculators in patents. This has tended powerfully to deter worthy and competent medical men from adopting any branch of it as a specialty, and thus the art has been until recently almost monopolized by the merest pretenders. But medical men of real merit have begun to enter this field of improvement, and already the ripe fruits of skilled labor begin to appear. The recent improvements in artificial limbs by Drs. Hudson of New York and Bly of Rochester, in trusses by Dr. Rice, in apparatus for the cure of deformities by Drs. Davis and Wood, are the results of long and careful study of the anatomical or pathological abnormalities to which their respective appliances are adapted. From medically educated mechanical surgeons the profession may obtain many practical hints, and it is important that we have a class of artisans in these several branches to whom we may with confidence defer questions of practice. The place of election for amputation of the lower, and even the upper extremity, will always be decided by the mechanical surgeon. How important it is that he be thoroughly qualified to give a just decision.

But we need not multiply examples of this kind. It

must be evident to every one that mechanical surgery is a branch, and a most desirable branch, surgical science and art. As such it should be fostered by the profession, by every legitimate means. First, we should encourage educated medical men to engage in its several departments, as special objects of study and practice, and give them the most cordial support. If the profession recognise the claims of this branch of the healing art, and take under its protection those who devote themselves to it, there will be no need of patents to insure to an inventor the honest proceeds of his labor and study. Second, we should discountenance on all occasions, and under all circumstances, the uneducated pretenders in this department of surgery, who throng our cities, and trumpet their wares in every market. Whatever merit some may have as inventors, as a class, they are not entitled to the slightest consideration, and should meet with unqualified condemnation.

THE WEEK.

A LONDON medical journal devotes an article to the establishment of " Certain Public Necessities." It says:—

"There are few sanitary questions which affect more immediately individual comfort and health than those involving an inquiry into the due provision of the means by which the out-door population and strangers of a great city may readily and decently 'relieve nature.' There are none which may be more appropriately discussed by the medical press; and there surely cannot be a point relating to the necessities of our common humanity upon which there exists less scope for false modesty in discussing it than the one upon which we now purpose commenting.

"Everyone meets here upon common ground, for no respect has been shown to persons. Man and women, the roughest and the gentlest of our race, all ages, the old man and the child, the sound and the sick, must yield alike to the calls of that nature with which they have been every one endowed. These calls we all know are imperative; sooner or later they must be obeyed; the time for which they may be disregarded with comparative impunity is but short under any circumstances, and under some almost insipreciable. Generally, if not attended to at once, great discomfort, or even disease, is the consequence. If such be the case when the body is in the possession of youth and health, how much more important is it that our physiological necessities be not unheeded when sickness or advancing years are influencing the frame. Inability to evacuate a distended bladder, or to relieve an irritable bowel, becomes a torture to the mind as well as to the body of the severest kind. The agony is sometimes almost unendurable. Life is rendered truly a misery to some people from the knowledge or the dread that if they once leave the privacy of their own home they may be quickly so circumstanced as to place—and very painfully, too—that life in imminent danger.

"Now it would naturally be supposed that to meet these stern wants, communities would, as a matter of course, make such public as well as private arrangements as might ensure their requisitions being easily and conveniently fulfilled. Disagreeable as the public confession of them may be, yet, as it is a necessity none are exempt from, we can the more readily put up with its explicit admission. Until within a very recent period, however, the conveniences accessible by the people at large were absolutely next to nothing. Even at present they are extremely few in number, and have reference to one exigency, and to a single sex. In order that the out-door world of a great city may feel at ease *quoad* the important physiologic necessities we are discussing, it should have the means of ready and modest access to urinals, water-closets, and lava-

tories. We do not, of course, pretend to say that the Government or any other public body is to supply the populace with all of these gratuitously. That would be out of the question as regards water-closets and lavatories. But as respects urinals not so, and for this it is that the demand is more urgent. Of such essential conveniences there should be provided at the public expense an ample number, and in such important thoroughfares, and withal so unobtrusively situated, as to be as readily found as they are modestly approachable. To be able always to combine the latter qualifications may be somewhat difficult, but under any circumstances we should be immeasurably better off than with the old stone boxes of the bridges, corners of public-houses, and the warning sign-boards at the entrance of dirty gateways and yards. Most of these were even more indecent than they were public, if that were possible."

THE Ladies' Sanitary Association (London) is extending the sphere of its usefulness wider and wider. The tracts are not only widely circulated in England, but they have reached continental cities where the health authorities have in many instances reproduced them. A London contemporary thus speaks of the sphere to which this excellent association devotes its labors:—

"It enters the mechanic's room and the poor man's cottage, and talks, in a woman's voice, to mechanics' and poor men's wives. It points out that, though the court may be drained, or the cesspool removed, the living room must have its windows opened; that though the infant may have been vaccinated, it must be fed and clothed in a proper manner; that notwithstanding warm under-clothing and coals have been supplied by the parish or by public charity, soap and warm water must be provided at home. The children laid up with scarlet fever may have been seen by the doctor; but his aid will be but trifling if they are left half suffocated in the close atmosphere which reeks up from a dirty and slovenly bed. The mothers of families are taught that true economy exists, not simply in buying in a cheap market, but in knowing how afterwards to employ their bargains to the best advantage. There is a good cheap cookery, as well as a bad cheap one; an effective cheap mode of dressing, as well as an inefficient cheap style of apparel. The former are shown to be easily substituted for the latter. These are, after all, things in which most reform is needed within the poor man's dwelling, and which reform, when decorated by the thrift and comfort of hygienically regenerated wives and daughters, will do more towards the weaning of our working men from skittle-grounds and gin-shops than a millennium of Exeter Hall demonstrations."

ANOTHER institution for the accommodation of the sick and wounded soldiers, called the Ladies' Military Hospital, was opened in this city last week. The building occupied is that known as the Infants' Home, corner of Lexington Avenue and Fifty-first street; it will accommodate about 400 patients. MAYOR O'DYKE presided at the opening ceremonies, and thus alluded to the service of the Hospital: "Nor need we fear that there will be any failure to keep the promise implied in the inviting name which the ladies have given to their hospital. It will be to its inmates emphatically a Home, with every appliance for the alleviation of their sufferings that skill and earnest sympathy can suggest. The building itself is a model of its class, and admirably adapted to the purpose to which it is to be now applied. The wards are large and well ventilated. They have been thoroughly cleaned and fitted up with appropriate furniture and excellent bedding. The surgical and medical staff embrace the best professional skill in the city. The nurses

will also be the best of their class; and better than all, the ladies themselves, or at least a portion of them, will be in constant attendance to infuse into the hearts of others a share of that devotion with which they apply themselves to this beneficent work."

The Medical Officers are:—*Consulting Physicians*—Joseph M. Smith, M.D., Austin Flint, M.D., Edward Vanderpool, M.D. *Consulting Surgeons*—Valentine Mott, M.D., Alex. H. Stevens, M.D., Richard Satterlee, M.D., U.S.A., Alex. B. Mott, M.D., Surgeon to the Home and Medical Director. Benj. F. McCready, M.D., Attending Surgeon. Walter Caswell, M.D., House Physician and Surgeon. Alfred E. M. Purdy, M.D., Senior Assistant. Jesse D. Pitt, Junior Walker.

THE treatment of fractures on the battle-field is one of the most important duties of the Army Surgeon. The value of plaster of Paris as a dressing has recently attracted much attention, and is, we believe, adopted to some extent. By request, we have inserted in this number a very full paper on this dressing, taken from a lecture on Military Surgery, by Dr. GLÜCK, and published in the *American Medical Monthly*, of December, 1855. Dr. GLÜCK saw much service during the Hungarian war.

WE learn from the *Syracuse Journal* that the Annual Report of Dr. Wilbur, the Superintendent of the New York Asylum for Idiots, located in that city, shows that at the close of the last year there were one hundred and thirty pupils in that institution. Six of the former pupils were temporarily absent, and there were several pupils accepted but not yet received. Of the State pupils connected with the Asylum, 18 have been inmates for more than six years; 11 for five years; 3 for four years and a half; 9 for four years; 4 for three years; 8 for two years and a half; 15 for two years; the remaining 50 having been inmates for a less period than two years. Plain, substantial, and convenient buildings, and out-buildings, secure the personal comfort of the inmates, and at the same time diminish the cost and labor of taking proper care of them. Fifty-five acres of excellent land, improved by thorough culture, and stocked with a large number of fruit-trees, afford the opportunity for the advantageous employment of the larger boys in agricultural labor.

THE CONSERVATIVE TREATMENT OF FRACTURES.

BY ISIDOR GLÜCK, M.D.

CHIEF SURGEON TO THE HUNGARIAN HUSSARS.
(From the *American Medical Monthly*.)

GYPSUM OR STUCCO BANDAGES.

ALTHOUGH even in compound fractures, where the wounded place has to be left uncovered, the application of Seutin's starch bandage answers this purpose best, still there are some objections to its being used in the field, or even in the hospital.

1. It dries too slowly, and cannot replace therefore immediately manual extension, which is required in order to retain the ends of the broken bone in mutual contact. It is, therefore, necessary to use machines or apparatus till the bandage becomes dry for 24-48 hours.

2. The thickness of the walls of the bandage diminishes, while the bandage becomes dry, and thus receding somewhat from the limb, cannot serve instead of the *manual extension*.

3. The application of the starch bandage costs on the field much time and trouble. The limb must first of all be surrounded by a roller, then covered with compresses and rollers, pasteboard and splints are then applied, and the whole again surrounded by a roller. The application of openings (windows) in Seutin's bandage is combined with difficulties. If the windows are made at the time when the bandage is applied, the same keeps badly together the fractured ends, and wood or tin splints must be used—if the windows have to be made when the bandage is *dry*, the wounded portion remains covered for a day or longer, and the excision or formation of the openings is in the hardened starch bandage yet more troublesome.

4. However dexterously we may apply the bandage, it will be pretty difficult to make so large openings as required, in order to expose the injured portion without loosening at the same time the *whole bandage*, while small openings or windows expose but a portion of the injured part.

5. In suppurating wounds, the pus discharged, as well as the fluid applied for cleansing the wound, and the moisture of the cataplasmas, will run under the bandage and destroy the epidermis.

6. The hardening and unequally contracting starch bandage (i.e. quickly hardening at its thin portions, and slower in its thicker ones) exerts an unequal pressure and therefore an injurious effect on the *swollen parts*.

7. The starch bandage cannot be applied for transporting the wounded soldier, who receives on the battle-field a compound fracture, because it requires warm water (not always ready in the field) for preparing it: then again it dries slowly, the formation of windows causes loss of time and trouble, requiring the application of splints, and because the parts being covered for a day or two, are injured, as suppuration may follow, and the pus stagnates and runs into the bandage; in damp weather it becomes *moist* and *soft*, in the rain; it is, therefore, necessary to have ready-made capsules of starch bandage, and the so-called *moveable* bandage, which often do not oppose sufficiently, and cannot therefore replace manual extension.

Recently gypsum bandages have been suggested in Belgium, but their application, according to Dr. Mathieson and Van De Loo, is troublesome, and takes much time, so precious on the battle-field. This bandage is not lasting, its preparation and preservation still more difficult than that of Seutin's starch bandage; much more preferable and practical is the preparation and application of *gypsum bandages*, as made by Pirogoff,* and used by him to the greatest extent with the best results. The gypsum bandage is *on the battle-field* in many respects preferable to the starch bandage. The gypsum solution requires but *cold* water, and turns *hard* as soon as applied, and replaces therefore *immediately* manual extension, and neither machines nor apparatus are required for that purpose. The dry gypsum bandage becomes so hard, that *no* splints are required, even if large windows are made, and transporting of the wounded soldier is *immediately* after the application of the bandage possible without injury.

The gypsum bandage is *simple* and *cheap*, as it consists of old *coarse linen* and *gypsum*: its application is simple and quickly made. The gypsum bandage replaces manual extension *perfectly*, the assistants need only for a few minutes keep the limb extended after the bandage has been applied, then the gypsum bandage is *stiff* and *hard* enough to retain the ends of the broken bone in the position given to them. Their displacement is *impossible* as long as the swelling does not diminish, and a *considerable* interspace is not formed between the limb and the bandage. Thus the gypsum bandage renders superfluous all machines for extension, as required, while the *starch bandage* becomes *dry*. Only by the application of the gypsum bandage in *oblique* fractures of the *thigh* it is necessary to fix the pelvis, and to retain the limb extended by means of a *bedtable*, and by weights attached to the extremity. More apparent yet are the advantages of the gypsum bandage in *oblique fractures*, where

* Prof. of Surgery in St. Petersburg (Russia).

the ends of the broken bone are *distant* from each other, in compound fractures and generally everywhere where it is necessary to keep open a wounded spot. In Pirogoff's mode of applying the gypsum bandage, the openings (windows) may be made *at once*; through them it is possible to view the position of the broken ends, the excoriations and wounds, and the curative process may be watched in its course. The gypsum bandage does not contract like the starch bandage, interspaces form *slower* between it and the leg, as in the gypsum bandage the interspaces depend upon the *decrease* only of the swelling, and not, like in starch bandages also, from unequal hardening of the bandage, and then again it does not become moist and soft in rainy weather. In complicated fractures the pus may be discharged, and find exit through the large windows made, and does not burrow itself *under* the bandage as is common in the starch one. Wet dressings may be applied *immediately* on the wound itself. The gypsum bandage becomes hard immediately after having been applied; wounded soldiers may therefore be safely transported *immediately* after the application of the gypsum bandage, from one place to another, even in the rain, without the bandage being disturbed, although the gypsum bandage may appear *wet* externally, which sometimes lasts for a few hours. The gypsum bandage may therefore be cut through immediately after the application in the interspace of the splints, if that should be required, in consequence of too great a pressure or pains, &c.

In the battle-field as well as in the hospitals, for transportation of the wounded soldier in the treatment of complicated fractures, with great dislocation of the ends of the fractured bones, the gypsum bandage is preferable to every other kind of bandages.

REQUISITES NECESSARY FOR THE APPLICATION OF GYPSUM BANDAGES IN THE BATTLE-FIELD AS WELL AS IN THE HOSPITALS.

1. Long, old hospital stockings made of linen, cut in front along the seam (if the seam is behind the stocking it must be turned and cut); old drawers also cut along the seam, and divided for one or the other limb; sleeves of old shirts (or instead of those long linen flaps cut in the form of stockings, drawers or sleeves); jackets or old vests; abdominal bandages covering the body once and a half; for fractures of the bones of the rump, pelvis, and of the neck of the thigh and bone. These pieces of linen used for surrounding the limb must be *equal, soft, and dense*. All seams must be removed.

2. Cotton or cleaned soft flax, pads filled with soft material, lint or flax for filling up (for instance, around the trochanters, around the malleoli in the popliteal region, and around the achilles tendons), simple and graduated compresses.

3. *Splints* of different dimensions in regard to length, width, and thickness, made of old coarse *sack linen*, as used for instance in hospitals for mattresses or straw mattresses. The old *sack linen* is folded twice, thrice, or four times, to the width of two fingers to one-third of a yard. The splints must, in fractures of the leg, the upper and forearm, exceed at least one-third of a yard the fractured bone, and in fractures of the *thigh*, and that of the neck of the thigh, it must be one-third of a yard longer than the *whole* extremity.

4. Strips (compressed) of the same linen from .2 inches wide, and of such a length as to surround the limb once or twice, they are calculated to fasten the splints, and are called *transversal* stripes (Pirogoff). These transversal stripes may be made also of fine linen, if the bandage should be a light one.

5. Plaster of Paris (*gypsum*) in form of fine powder and well dried. For the application of a bandage, never less than 2 lbs. have to be used (as for fracture of the forearm), nor more than 7 lbs., as for fracture of the neck of the thigh bone.

6. A vessel with cold water. The gypsum solution should not harden sooner than in five or eight minutes, in order to allow the application of the bandage. Although hardened, it still looks wet from the evaporation of the

water, out of the bandage painted over with gypsum solution, and the patient may safely be carried with it.

7. Large brushes, as used by house painters. Besides those necessary requisites in hospitals, may be used finer linen rollers for simple fractures and splints made out of pasteboard; and for complicated fractures, with large wounds, *splints* of wood, of different dimensions, together with pads attached to them on both ends, and also a few pieces of sheet iron or tin may be held ready.

THE APPLICATION OF GYPSUM BANDAGES.

Is made in the following way: The injured limb is first surrounded with dry linen, a sleeve, a linen stocking, or with half a drawer. Bony prominences must be wadded, and hollows filled out with cotton. The linen surrounding it must not be too thin, nor have holes in it, in which case the linen must be doubled, or the limb first covered by cotton. If this is not done the moisture presses to the skin, and the patient complains of a cold or burning sensation.

2. The broken limb is put in the required position, the extension is then made, and the fractured ends then approximated. Sometimes it is necessary to begin with the reduction, and subsequently follows the surrounding of the limb, and the patient complains of a cold or burning sensation.

The splints and the transverse strips of sack linen, each three or four times folded, are put near the patient *in that* order as required to be later applied to the limb. An assistant prepares the solution of gypsum and paints with it the splints and strips, or rather dips them into the solution and brushes them with it. The proper application of the bandage depends now upon the gypsum solution. If the solution be too *thick* it dries *quick*, the splints and transverse strips are not *united* firmly together, nor are the splints firmly fixed if the solution be *too thin*. When the solution becomes denser, water must not be added to it, as the solution becomes through it creamy, is not imbibed by the linen, cannot be smoothed, does not adhere, and takes a long time to become dry.

5. The splints and strips of linen must be dipped in the solution, which I now prepare by adding to two pounds of water the equal weight of gypsum. They must be extended and swinging free, and must thus be brushed over on both sides with the gypsum solution as you see it here.

6. The splints must be applied longitudinally to the limb, and must be fixed by the transverse strips, carried around both the limb and splint. The transverse strips are applied in pairs, so that the one should cover the other partially. The splints may be applied in such a manner that the one should cover the other partially, or, what is preferable, in such a way that between the splints should remain a free open space on the side, in front of, or behind the limb. The assistants producing extension must continue to do so until the bandage is hardened, i. e. about eight minutes after the gypsum bandage has been applied. During its application the limb must be kept extended free, in order to be accessible from all sides. The splints must be pressed firmly to the limb by the hand. The transverse strips must be drawn firmly and tightened around the limb, and by the hand or brush well covered with gypsum solution, in order that all prominences and hollows should be equalized. In oblique fractures and dislocations of the fractured ends, at least two layers of transverse strips are necessary. But if the bandage has yet to be removed, it is necessary—

1st. To apply the splints with a space between them.

2d. The transverse strips are covered from the middle (where about the extent of two inches remains uncovered) towards their ends with gypsum solution.

3d. The transverse strips are applied so that the uncovered part should correspond in its situation to the longitudinal interspace between the splints.

In the field it is necessary to have arranged, before the application of a bandage, all requisites in one package for each fracture separate. Thus, for fracture of the forearm, the bandages should be separate from those for fracture of the leg, as you see it here.

(To be continued.)

Medical News.

DEATH OF DR. ALLEY.—It is with sincere regret that we have this week to record the death of Dr. John B. Alley. The event was not unexpected either to himself or to his friends, as he has been for a long time in declining health, and, latterly, it has been evident that he could not long survive. The void occasioned by the death of Dr. Alley, not only in the ranks of the profession, but in the hearts of all who knew him, will not soon be filled. We all remember how for years he has faithfully stood by his post, when his strength was often well nigh exhausted, determined to shrink from no duty, so long as life remained, to further the interests of humanity; and we can all testify to the scrupulous fidelity with which he performed the responsible and often arduous official duties that devolved upon him. It is probable that the state of his health did not permit him to share largely in private practice, but the Massachusetts Medical Society will cherish his memory for the able and faithful manner in which he has so long guarded its interests; and the city of Boston owes him a debt of gratitude which never can be paid for his long and efficient services as Superintendent of the Boston Dispensary.—*Bost. Med. Jour.*

MILITARY HOSPITALS IN CINCINNATI.—There are at this time, in this city, four large hospitals, devoted exclusively to sick and wounded soldiers, namely: one on Lock street, known as the Marine; one on Fourth, between Main and Sycamore; one on Third; and one on George, between Baymiller and Freeman. Dr. John Moore, Assistant-Surgeon U. S. A., we believe, has charge of these. At the Marine Hospital, he is assisted by Dr. E. Williams; at the Fourth Street Hospital, by Dr. J. B. Smith; at the Third Street Hospital, by Dr. J. A. Murphy; at the George Street Hospital, by Drs. David Judkins and Wm. B. Davis. Each of these gentlemen receives one hundred dollars per month, compensation for his services. Besides these hospitals, there are soldiers at the Commercial Hospital, St. John's, and St. Mary's. The number of patients now on hand we are not informed; we presume it is constantly varying. Some two or three weeks ago, there were at the Fourth Street Hospital, under Dr. Smith, 215; there had been received into the house, 312; of this number, twelve had died. A large increase in the present number will doubtless take place from the wounded in the late battle at Pittsburgh, Tenn. We understand that hospital accommodations will be fitted up at Camp Dennison, a few miles from the city, to meet the necessity.—*Med. & Surg. News.*

PHRENOLOGY.—One would have thought that, after his execution, people would no longer talk of the famous Dumollard, the servant killer; but on the contrary, it now happens that his skull has fallen into the hands of phrenologists, and the disciples of Gall and Spurzheim seek to prop up their theories with the bumps of this head severed by the executioner. It is exceedingly curious to see the results arrived at by enthusiastic phrenologists who have studied this skull, and the efforts they have made to "specify" the general faculties they have observed. For instance, they admit that Dumollard had not the bump of murder; but they do not consider themselves beaten for so little. In return, he had the bump of "secretiveness," or, in other words, cunning. But what is less easy for them to account for is, that he also possessed the bump of benevolence—which is rather startling. Nevertheless, by making a strict search of his life they find something that does not roundly contradict even this fact. It seems that phrenology is as elastic as India-rubber.—*Brit. Med. Jour.*

SIR BENJAMIN BRODIE has a second series of his *Psychological Inquiries* nearly ready for publication by Messrs. Longman and Co.

PHOTOGRAPHS OF THE EYE.—At a late meeting of the American Photographical Society, Dr. Henry D. Noyes exhibited a negative showing the optic nerve and interior of a rabbit's eye. The impression was obtained by a newly invented instrument devised by himself and Mr. Grunow, a practical optician. Such a photograph has never been obtained before in this country, although it is said to have been done in France. The interior of the eye, namely, the retina and optic nerve, has been disclosed to observation in the living person, by an instrument invented in Germany, called the Ophthalmoscope. This has been in use for ten years, but it is only now that the interior of the eye has been photographed. Dr. Noyes explained the working and principles of the new Ophthalmoscope, by the aid of diagrams, and the presentation of the instrument itself. Through it diseases of the eye can be studied with greater facility, and scientific records of them kept. The instrument displayed in its elegant and finished workmanship the highest mechanical skill. The discourse of the doctor was listened to with close attention, and the audience expressed their approbation by applause.—*American Journal of Photography.*

The following General Order has been issued from the Adjutant-General's office:

First: Assistant-Surgeon William A. Hammond, U.S.A., having been appointed by the President Surgeon-General, with the rank of Brigadier-General, under the act approved April 16th, 1862, will enter without delay upon the duties of his office.

Second: Applications for transportation for the removal of sick men, for nurses, and for supplies for the sick, will be hereafter made to the Surgeon-General. The Surgeon-General is also authorized to give passes, at his discretion, for private physicians, nurses, and friends of the sick and wounded soldiers, to attend and visit them.

MAINE MEDICAL SCHOOL.—The clinic of this School, by Drs. Childs and Dana, for Saturday, April 19th, is reported in the *Brunswick Telegraph*. Eleven cases were treated, some of them of an interesting character, the operations being performed by Dr. Childs. Dr. Robinson's course of lectures being brought to a close, a suitable valedictory address to the students was made by him, and a letter of thanks from them was returned. Dr. Nourse, of Bath, commenced his course of lectures on Monday.—*Bost. Med. Jour.*

PERTUSSIS.—Dr. H. Holmes, in a paper read before the *Middlesex* (Mass.) *Medical Society*, recommends the following: B Tr. Cardamomi Comp. $\frac{3}{4}$ ss; Syr. Simpl. $\frac{3}{4}$ iiiss. Acidi Nitrici, gtt. xxxij. M. Sig. From five drops to one teaspoonful to be given frequently, according to the age of the patient and the severity and frequency of the paroxysms.—*Med. and Surg. News.*

A FRENCH journalist says that, if the inhabitants of the Seine Department were equally divided among the doctors, each doctor would have one thousand persons out of whom to get his clients. The moral to be drawn from the fact, he adds, is this: that the young doctor who has not means of existence besides what he may get from practice, and settles in Paris, is a madman.—*Brit. Med. Jour.*

A NEW HAEMOSTATIC AGENT of great power has been recently announced. It is an extremely delicate and beautiful fern from Java, the Pengawar Jamba (*Palea T'botti*), provided with very fine filaments, which are said to be used for the above purpose with great effect.

DR. C. A. FINLEY, late Surgeon-General, has been retired from service at his own request, by the President.

DR. J. H. THOMPSON, of this city, Brigade-Surgeon in Burnside's Command, has been discharged from service, as an alarmist.

DR. EVERETT, of Quincey, Ill., Brigade-Surgeon in Gen. Prentiss's Division, was killed at the battle of Pittsburgh Landing, while endeavoring to rally the troops.

METEOROLOGY AND NECROLOGY OF THE WEEK IN THE CITY AND COUNTY OF NEW YORK.

Abstract of the Official Report.

From the 28th day of April to the 5th day of May, 1862.

Deaths.—Men, 90; women, 86; boys, 118; girls, 107—total, 401. Adults, 176; children, 225; males, 208; females, 193; colored, 8. Infants under two years of age, 152. Children reported of native parents, 26; foreign, 17.

Among the causes of death we notice:—Apoplexy, 8; infantile convulsions, 19; croup, 8; diphtheria, 10; scarlet fever, 29; typhus and typhoid fevers, 4; consumption, 78; small-pox, 14; dropsy of head, 21; infantile diarrhoea, 15; diarrhoea and dysentery, 0; inflammation of brain, 15; of bowels, 5; of lungs, 27; bronchitis, 7; congestion of brain, 14; of lungs, 8; erysipela, 15; whooping cough, 8; measles, 1. 218 deaths occurred from acute diseases, and 36 from violent causes. 282 were native, and 119 foreign; of whom 81 came from Ireland; 10 died in the Immigrant Institution, and 48 in the City Charities; of whom 11 were in the Bellevue Hospital.

Abstract of the Atmospheric Record of the Eastern Dispensary, kept in the Market Building, No. 57 Essex street, New York.

April & May.	Barometer.	Difference of dry and wet bulb. Therm.			Wind.	Mean amount of cloud.	Humidity saturation, 1000
		Mean height	Daily range	Mean	Min.	Max.	
1862		IN.	IN.	*	*	*	
27th.	.07	48	37	9	10	N. to SE.	1 500
28th.	.24	47	37	60	3	N.E.	9.7 794
29th.	.04	45	37	54	2	N.E.	6 864
30th.	.10	50	40	64	5	N.E. to SE.	1 680
1st.	.00	47	46	55	1½	N.E.	10 940
2d.	.14	51	45	60	2	N.E. to SE.	9.9 880
3d.	.07	55	45	65	5	N.E. to SE.	2 726

REMARKS.—27th, Clear, with fresh wind. 28th, Cloudy, light rain P.M. 29th, Fog A.M., light rain during the day, clear late P.M. 30th, Clear, hazy late P.M. 1st, Variable sunrise, rainy day. 2d, Rain till 4 P.M., fog evening. 3d, Fog A.M., day mostly clear.

REPORT OF THE METEOROLOGICAL COMMITTEE OF THE N. Y. CO. MEDICAL SOCIETY, READ MAY 5, 1862.

SUMMARY OF METEOROLOGICAL OBSERVATIONS, APRIL, 1862.

	Degrees.
Mean temperature for the month of April.	47
" " at 6 A.M.	40
" " at 10 A.M.	47
" " at 2 P.M.	55
" " at 6 P.M.	49
" " at 10 P.M.	43
Mean temperature of evaporation at 6 A.M.	36
" " " at 10 A.M.	41
" " " at 2 P.M.	46
" " " at 6 P.M.	42
" " " at 10 P.M.	39
Mean minimum temperature.	38
" maximum	56
" temperature of evaporation.	41
Minimum temperature in the month, on the 9th.	26
Maximum " " " 18th.	83
Minimum " of evaporation.	23
Maximum " "	75
Mean weight of vapor in a cubic foot of air.	2.4
Minimum " "	1.67
Maximum " "	7.17
Mean height of barometer at 6 A.M.	In. 30.08
" " " at 2 P.M.	30.11
" " " at 10 P.M.	30.06
Mean height of barometer for the month.	30.07
Minimum " " on the 22d.	29.45
Maximum " " " 27th.	30.40
Inches of rain, less than usual.	2
Days of Easterly winds.	15
" Westerly winds.	15
Days mostly clear.	18
" cloudy.	12
Days mostly of rain and snow.	4

REMARKS.—The last snow storm of the season on the 9th, with high wind. The barometer ranged unusually high. Very warm weather prevailed during the middle of the month. The weather was fine and not as variable as usual. Wind mostly fresh. Upon fifteen fine days the wind blew in the morning from the land towards the sea, and in the afternoon from sea landward.

MEDICAL DIARY OF THE WEEK.

Monday, May 12.	NEW YORK HOSPITAL, Dr. Halsted, half-past 1 P.M. BELLEVUE HOSPITAL, Dr. Thomas, half-past 1 P.M. EYE INFIRMARY, 12 M.
Tuesday, May 13.	BELLEVUE HOSPITAL, Dr. Loomis, half-past 1 P.M. OPHTHALMIC HOSPITAL, Drs. Stephenson and Garrish, 1 P.M. NEW YORK HOSPITAL, Dr. Griscom, half-past 1 P.M.
Wednesday, May 14.	BELLEVUE HOSPITAL, Dr. Sayre, Is. Hos., half-past 1 P.M. Dr. Flint, Is. Hos., 3 P.M. EYE INFIRMARY, 12 M.
Thursday, May 15.	NEW YORK PATHOLOGICAL SOCIETY, 8 P.M. NEW YORK HOSPITAL, Dr. Halsted, half-past 1 P.M. BELLEVUE HOSPITAL, Dr. Barker, half-past 1 P.M.
Friday, May 16.	OPHTHALMIC HOSPITAL, Drs. Stephenson and Garrish, 1 P.M. EYE INFIRMARY, 12 M.
Saturday, May 17.	BELLEVUE HOSPITAL, Dr. McCready, half-past 1 P.M. NEW YORK HOSPITAL, Dr. Griscom, half-past 1 P.M. BELLEVUE HOSPITAL, Dr. Wood's Clinic, 1 P.M. OPHTHALMIC HOSPITAL, Drs. Stephenson and Garrish, 1 P.M.

Dr. Alfred C. Post has removed to
269 Madison Avenue, above 40th Street.

Notice of Removal.

DR. HANBURY SMITH

HAS REMOVED HIS

LABORATORY AND SALESROOM TO

808 BROADWAY, Opposite Eleventh Street.

Removal.

WILLIAM WOOD,

(Late S. S. & W. Wood.)

MEDICAL BOOKSELLER,

HAS REMOVED TO

No. 61 Walker St., (Four doors West of Broadway.)

DR. NEGGERATH

HAS REMOVED HIS OFFICE TO

125 WAVERLEY PLACE.

John W. Shedd, Apothecary,

368 Bowery, cor. 4th St.

Squibb's, Allen's, Tilden's, Herring's, and other fine preparations always on hand; also Pure Chloroform and Oxalate of Cerium prepared for us by Duncan Fleckhart & Co., Edinburgh.

P. W. BEDFORD,

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Descriptive Circulars with Samples of Work
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Having just completed the most successful season's business they have ever enjoyed—wherein they have demonstrated that, for all kinds of work, they have "THE SEWING MACHINE OF THE WORLD"—enter upon the New Year with still more important improvements, the latest being their

NEW TAILORING MACHINE.

Having heretofore aimed almost wholly to supply a Family Machine, which should do all kinds of family sewing, and having succeeded, we now enter the market with a Manufacturing Machine, which, for elasticity and strength of stitch—for rapid movements—for simplicity and durability, defies competition. While adapted to make the HEAVY ARMY AND NAVY COATS, with linen thread, it can, by a slight change, be made to do the fine family sewing; thus combining in one machine adaptation to FINE FANCY SEWING and HEAVY MANUFACTURING. This can be best appreciated by those who have owned and operated machines. We do not ask or expect the public to be governed by our statements alone. We court investigation, and refer to the thousands who have our machines in successful operation.

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**AGENTS: T. METCALF & CO., BOSTON, MASS.; H. P. WAKELEE, SAN FRANCISCO, CALIFORNIA; E. L.
MASSOT, ST. LOUIS, MO.; , BALTIMORE, MARYLAND, ETC., ETC.**

To be had also from the first class Drug Stores.

ALBESPEYRE'S BLISTERING TISSUE.

This Tissue is always reliable, being of a uniform strength and blistering in six hours. It is neat, handy, economical, and of a great convenience for Physicians (principally country Physicians), Pharmacists, and Patients. Generally used in the civil practice; it is the only one employed in the active armies and hospitals of France.

ALBESPEYRE'S EPISPLASTIC PAPER, is used for maintaining blisters, in preference to any drawing ointments.

RAQUIN'S CAPSULES,

Approved by the French Academy of Medicine—Daily prescribed with success by the profession at large. These capsules are superior to any similar preparations.

GENEVOIX PURE OIL OF HORSE CHESNUTS.

This ANTI-GOUT preparation is among the numerous topical applications possessed by therapeutics, the best external remedy for Gout, Erysipelas, and NEURALGIA.

N.B. It is very important, in applying this oil, to rub gently on the inflamed part, till the skin is completely saturated with the oil.
E. GENEVOIX, Phen., 14 Rue des Beaux Arts, Paris.

BLANCARD'S PILLS OF IODIDE OF IRON.

Every physician, every work of medicine, regards the Iodide of Iron as an excellent preparation, uniting the properties of both Iron and Iodine.

Each pill contains one grain of Iodide of Iron, the dose is two to four pills a day. None are genuine which have not a reactive silver seal attached to the lower part of the cork, &c., &c.

BLANCARD, Phen., No. 40 Rue Bonaparte, Paris.

BONJEAN'S ERGOTINE & DRAGEES OF ERGOTINE.

Bonjean's Ergotine, or purified Extract of Ergot, is the extractive principle of Secale Cornutum, minus its poisonous substance. In consequence, Bonjean's Ergotine may be given in doses proportionate to the danger of the case, without any risk for the life of the patient. The dose of Bonjean's Ergotine is from five to 10 grains, daily. One dragee (three grains) may be given, crushed, every two or three hours, in some grave cases of uterine hemorrhage.

LABELONYE, Phen., No. 19 Rue Bourbon, Villeneuve, Paris.

**QUEVENNE'S IRON AND DRAGEES OF IRON
BY HYDROGEN.**

Physicians desirous to have a faithful article, will prescribe Genuine Quevenne's Iron, which is always uniform and reliable, and quite different from the commercial Iron by Hydrogen.

It comes in small bottles, with a tin spoon containing two grains of Iron, which is a dose. E. GENEVOIX, 14 Rue des Beaux Arts, Paris.

LEBEL'S SAVONULES OF COPAIVA, &c., &c.

The unfriendly action of Copiva on the stomach, causing nauseous eructations and gastric derangements, renders its continued employment often impossible. In Lebel's Savonules the Balsam, by its saponification with an alkali, is modified in such a manner, that its digestion is easy and its absorption more ready, besides its elegant form and disguise under a coating of gluten, recovered by sugar as a dragee, neither offend the sight nor displease the palate.

**PIERLOT'S VALERIANATE OF AMMONIA,
FOR NERVOUS AFFECTIONS.**

This preparation is not at all like the one prepared by Apothecaries, after the formula published in the journals; its odor, its taste, and above all, its success, where the other one fails, will tell at once how different they are from the other.

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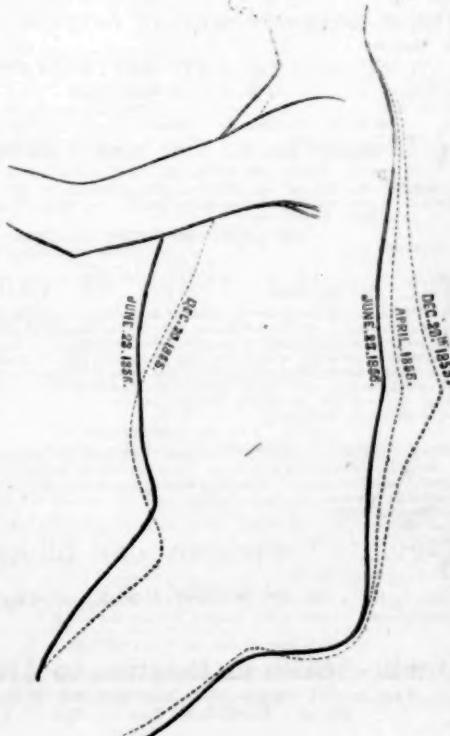
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